Specifications

Hydraulic Plunger is a hydraulic device use to clear and clean the waste water system of a house (drains, toilets, washbasin, kitchen sink and similar devices used at home). It supplies tap water pressure (Home Water Supply Pressure), and simultaneously sealing the drain orifice where the device is used, so that the water pressure acts on the obstructions pushing and eliminating them. It is made up of six pieces.

a) A ¾ inch P.V.C. Nipple 4 inches long with ¾ N.P.T screwed ends. It is used to connect a water garden hose and to supply water to the device and as a handle to manipulate it.

b) A ¾ inch quick opening globe valve that allows the user to have direct control of the water flow.

c) A ¾ P.V.C nipple 16 inches long. It is used to supply the water, joining the garden hose to the rubber plug and as a handle to manipulate the device as it is put on the orifices to be clean. Threaded at one end with a ¾ inch N.P.T thread and a 1" 8 UNC thread at the other end.

d) A 1 inch 8 U.N.C hexagonal nut, used as a stop for the rubber plug.

e) A rubber plug with two different faces with screws on the 16 inches long nipple through a 1 inch 8 U.N.C thread.

One face is for general use and the other to clean toilets; it will match any kind of orifice sealing it and supplying water under pressure at the same time.

f) A step on device, which is screwed on the 16-inch nipple instead of the hexagonal nut. To be used when cleaning floor drains. So that the user can use all their weight, to press and hold the Rubber Plug in position to seal the joint. Because the forces generated as you supply the water under pressure are too high.

g) A ¾ inch P.V.C nipple 4 inches long threaded at one end and with a flexible pipe connected at the other end to seal the washbasin orifice.

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Hydraulic Plunger replaces all known devices used to clean and clear waste water system.

-Easy to use does not require skilled users.

- It acts immediately
- Does not represent a Health Hazard.
- It is Non Toxic.
- Does not produce gases.
- Does not irritate skin or eyes.
- Does not use hot water.

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Back Ground of the Invention

At the present moment, mechanical devices and chemical agents are used to clean and clear waste water systems.

Chemical Agents

These chemicals are based on sodium hippodrome, sodium hydroxides and sodium carbonates. These agents are poured in the water to eliminate hairs, mud, organic residue, etc. These agents are poured in the plugged pipes adding hot water. This is a slow process that you have to repeat time and time again. They produce toxic gases, they are poison, irritate eyes and skin. They do not eliminate wood, metal, glass or solid residues.

Mechanical Agents

a) Plunger – It is a mechanical process using a flexible rubber cup with a wooden (plastic) handle; it is placed over the orifices and by pressing and pulling actions the obstructions are loosened and are washed out. This process is a slow one and not always effective.

b) Metal Wires

A mechanical process using a flexible metal wire 15 meters long. Which you introduce in the pipe and turn it by means of a handle or an electric drill to break up the solids. It requires skilled operators, you cannot always get to the obstruction, and solids are washed out with water.

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Brief descriptions of the Drawings

4.1 Drawing-1 Nipple

A ¾ inch P.V.C nipple 4 inches long with ¾ N.P.T screwed ends.

It is used to connect a water garden hose and to supply water to the device and as a handle to manipulate it.

4.2 Drawings 2- Globe Valves

A ¾ inch quick opening globe valve, which allows the user to have direct control of the water flow.

4.3 Drawing 3- Long Nipples

A ¾ inch P.V.C nipple approximately 16 inches long, used to supply the water, to join the water hose to the rubber plug and as a handle to manipulate the device as it is put on the orifices to be cleaned. Screwed at one end with a 3/4 inch N.P.T thread and a 1 inch 8 U.N.C at the other end. As it is pressed by hand against the orifices, it seals the connection between the orifices and the rubber plug eliminating water leaks.

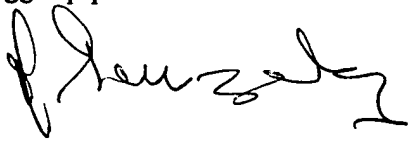
4.3 Drawing 4- NVT

A 1 inch 8 U.N.C hexagonal nut used as a stop for the rubber plug so that it does not slide along the nipple.

4.5 Drawings 5- Rubber Plug

A rubber plug with two different faces with screws on the 16-inch nipple through a 1 inch 8 U.N.C thread. One face is for general use and the other face a cone of 45 and 180 mm in diameter. It allows the rubber plug to seat and seal any kind of orifice, which the other face was not able to seal.

The rubber plug will match any kind of orifice and seals it when applying hand pressure. It also supplies water under pressure, as the globe vale is open, pushing any obstruction out of the way into bigger pipe diameters.



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4.6 Drawing 6- Step on Device

A step on device which is screwed on the 16-inch nipple instead of the hexagonal nut, to be used when cleaning floor drains, so that the user can use all his weight to press and hold the rubber plug in position to seal the joint. Because the forces generated as you supply the water under pressure are too high.

4.7 Drawing 7 –Washbasin Unplugged

A washbasin unpluger is a ¾ inch P.V.C nipple 4 inches long with a 1-inch flexible pipe connection to seal the washbasin orifice and supply water under pressured to it. It is screwed directly to the water garden hose through a ¾ inch N.P.T thread.

4.8 Drawing 8- Assembly for General Use

Shows one face of the rubber plug to unplug toilets, washbasin, and kitchen sink and on the floor drains.

4.9 Drawing 9- Assembly to Unplug Toilets

Shows the other face of the rubber plug to unplug toilets, drains.

4.10 Drawing 10- Assembly to Unplug/Drains on the floor

Shows the first face of the rubber plug for general use, including the step-on device instead of the hexagonal nut so that the users weight is used to seal the hydraulic plunger-floor drain connection.

4.11 Drawing 11-Washbasin unpluger assembly

Shows the water garden hose and washbasin assembly.

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Helen McKenzie

Brief Summary of the Inventi n

It is a hydraulic device used to clear and clean (unplug) the waste water system of a house (drains, toilets, wash-basin, kitchen sinks, and similar devices used at home).

Supplying water tap pressure (home water supply pressure) and simultaneously sealing the drain orifices where the device is used, so that the water pressure acts on the obstruction pushing and eliminating them into bigger pipe diameters. It acts immediate; it is non-toxic, does not require skilled operators or tools for its use and assembly. The device is made up of six pieces.

a) A ¾ inch P.V.C. Nipple 4 inches long with ¾ N.P.T screwed ends. It is used to connect a water garden hose and to supply water to the device and as a handle to manipulate it.

b) A ¾ inch quick opening globe valve that allows the user to have direct control of the water flow.

c) A ¾ P.V.C nipple 16 inches long. It is used to supply the water, joining the garden hose to the rubber plug and as a handle to manipulate the device as it is put on the orifices to be clean. Threaded at one end with a ¾ inch N.P.T thread and a 1" 8 UNC thread at the other end.

d) A 1 inch 8 U.N.C hexagonal nut, used as a stop for the rubber plug.

e) A rubber plug with two different faces, which screws on the 16 inches long nipple through a 1 inch 8 U.N.C thread.

One face is for general use and the other to clean toilets; it will match any kind of orifice sealing it and supplying water under pressure at the same time.

f) A step on device, which is screwed on the 16-inch nipple instead of the hexagonal nut. To be used when cleaning floor drains. So that the user can use all their weight, to press and hold the Rubber Plug in position to seal the joint. Because the forces generated as you supply the water under pressure are too high.

g) A ¾ inch P.V.C nipple 4 inches long threaded at one end and with a flexible pipe connected at the other end to seal the washbasin orifice.

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The device is assembled in the same sequence shown in the drawings

(See drawings 8,9,10 and 11)

a) Screw the water garden hose to the ½ inch water tap connection.

b) Screw the water garden hose to the plastic tube.

c) Screw the rubber plug to the plastic tube, using either end according to your needs (see drawings 8,9,10, and 11) for All Uses, Toilets and Drains.

d) Using hand pressure press the rubber plug over the drain you want to clean, holding the device by the plastic tube.

e) Open the water tap and the globe valve(slowly if you have high pressure). Once the drain is full of water, pressure will act against the obstruction pushing it out of the way towards bigger pipes in the drain system (increase hand pressure to eliminates leaks).

f) Once the drain is clear of the obstruction, leave the water running for a few minutes to clean up the system.

g) For best results, before opening the water tap, plug the drains in the kitchen sink and washbasin, putting the plugs in the closed position, so that the water pressure acts on the draining system and does not leak out through them.

h) To clean up the whole draining system of a house begin with drain points closer to the discharge of the city draining system or the discharge to the septic hole and move to the farthest point.

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Results of Test

Using a garden water hose connected to a water tap with a variable pressure supply (4.5 meter up to 49.30 meters)

From

a) City water supply

b) Elevated 4.5 meters water tank.

c) ½ H.P electric water pump.

d) A hydro-pneumatic system

The following results were obtained for 2 inch pipe diameters (area =16.62 sq centimeters).

	Pressure (kg/cm2)	Force (kgs)
Elevated Water Tank	.45	7.5
Electric Pump	3.5	~~58~~
Hydro-Pneumatic	4.970	82.6
City Water Supply	1.02	16.95

For 4 inch pipe diameters (Area 91.61 square centimeters)

	Pressure (kg/cm2)	Force (kgs)
Elevated Water Tank	.45	41.22
Electric Pump	3.5	320.6
Hydro-Pneumatic	4.970	455.7
City Water Supply	1.02	93.4

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The applied forces are theoretical maximum values according to the pressure and area used, as the plugged pipes (by means of paper, bags, organic residue, sanitary pads) were unplugged. As soon as the globe valve was open, no registering pressure rise occurred on the manometer (incorporated to the system by means of a tee connection on the 16 in long nipple.)

Alberto Jose Gonzalez
Personally appeared
before me 21st November 2002
Helen M Kinsman
commission expires.
05-26-2004